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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|-------------------------|------------------------------|------------------|
| 10/550,447 | 11/17/2005 | Hiroshi Kubota | 09450/0203405-US0 | 1964 |
| 7278 7590 01/30/2007 DARBY & DARBY P.C. P. O. BOX 5257 NEW YORK, NY 10150-5257 | | | EXAMINER DUONG, DIEU HIEN | |
| | | | ART UNIT 2821 | PAPER NUMBER |
| SHORTENED STATUTORY PERIOD OF RESPONSE 3 MONTHS | | MAIL DATE 01/30/2007 | DELIVERY MODE PAPER | |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/550,447

Applicant(s)

KUBOTA ET AL.

Examiner

Dieu Hien T. Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>09/21/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toshiyuki et al. (JP 2003-018850, cited by applicants).

Regarding claim 1, Figures 1-3 and 6 of Toshiyuki disclose a self-ballast fluorescent lamp comprising a fluorescent lamp 11; a lighting circuit 16 having a one-package switch 74, inductors L1, L2, L3, and capacitors C1, C2, C3, C4, said one-package switch 74 containing in a single package a pair of field effect transistors Q1, Q2 that serve as inverter switches for driving the fluorescent lamp 11; and a circuit board 24 having a first face facing away from said fluorescent lamp and a second face facing towards said fluorescent lamp 11, said first face having at least both a smoothing capacitor C2 and a current-limiting inductor L1, which have relatively large dimensions, mounted thereon; wherein said one-package switch 74 being a generally rectangular surface mounting device and provided with terminals extending from two apposing sides thereof (drawing 6); and said one-package switch 74 being surface mounted on either said first face or said second face of said circuit board 24 through said terminals.

Toshiyuki does not specifically disclose said one-package switch with a length and a width that do not exceed 6 mm.

However, this difference is not of patentable merits since Toshiyuki teaches that the lamp is a compact self-ballast fluorescent lamp (see translation page 2, par. [0011], lines 2) and as such all the physical parameters of the parts/components/devices configured therein must be correspondingly related. Specifically, the size of the one-package switch including its length and width is determined solely for accommodating with the overall size of the lamp, or more properly, the inner part of the lamp, and it is believed that the size of the one-package switch does not affect the operation capability of the lamp. Therefore, to implement the size of the one-package switch of Toshiyuki with a dimensional length and width within 6mm, or not exceeding 6mm as claimed, for convenience in accommodating with the inner part of the lamp would have been deemed obvious to a person skilled in the art of electric discharge lamp.

Regarding claim 7, as applied to claim 1, Figures 2 and 3 of Toshiyuki discloses said circuit board being double-side mounting type; and said one-package switch 74 being surface mounted on said first face of said circuit board 24.

Regarding claim 8, as applied to claim 1, Figure 1 of Toshiyuki discloses said field effect transistors Q1, Q2 being complementary.

Regarding claim 9, Toshiyuki discloses every feature of claimed invention as expressly recited in claim 1, except for the drain-source voltage of the field effect transistors being set at 200V or more, and the drain current of said field effect transistors being set at 0.5A or more.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to select the values of components in the lighting circuit to have

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desirable voltage and current for field effect transistors. Therefore, to employ having the drain-source voltage of the field effect transistors being set at 200V or more, and the drain current of said field effect transistors being set at 0.5A or more is generally recognized as being within the level of ordinary skill in the art.

Regarding claim 10, Figures 1-3 of Toshiyuki disclose a self-ballasted fluorescent lamp comprising a fluorescent lamp 11; a lighting circuit 16 having a one-package switch 74, inductors L1, L2, L3, and capacitors C1, C2, C3, C4, said one-package switch 26 containing a single package, a pair of field effect transistors that serve as inverter switches for driving the fluorescent lamp; a circuit board 24 having a first face facing away from said fluorescent lamp and a second face facing towards said fluorescent lamp, said first face having at least both a smoothing capacitor and a current-limiting inductor mounted thereon; a base 12 disposing at the second face side of circuit board 24; wherein said one package switch being a generally rectangular surface mounting device and said lighting circuit 16 being contain in said base 12.

Toshiyuki does not specifically disclose said one-package switch with a length and a width that do not exceed 6 mm.

However, this difference is not of patentable merits since Toshiyuki teaches that the lamp is a compact self-ballast fluorescent lamp (see translation page 2, par. [0011], lines 2) and as such all the physical parameters of the parts/components/devices configured therein must be correspondingly related. Specifically, the size of the one-package switch including its length and width is determined solely for accommodating with the overall size of the lamp, or more properly, the inner part of the lamp, and it is

believed that the size of the one-package switch does not affect the operation capability of the lamp. Therefore, to implement the size of the one-package switch of Toshiyuki with a dimensional length and width within 6mm, or not exceeding 6mm as claimed, for convenience in accommodating with the inner part of the lamp would have been deemed obvious to a person skilled in the art of electric discharge lamp.

Regarding claim 11, as applied to claim 10, Figure 1 of Nishio discloses said base 12 having an opening at the base end thereof; said circuit board 24 being positioned so as to close off said opening; and said one-package switch 26 being attached to said first face of said circuit board.

3. Claims 2- 6 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toshiyuki et al. (JP 2003-018850, cited by applicants) and further in view of Nishio et al. (US 6,437,502 B1).

Regarding claim 2, Toshiyuki discloses every feature of claimed invention as expressly recited in claim 1, except for said one-package switch 26 being surface mounted on said second face of said circuit board, at a location apart from said electrodes.

Figure 13 of Nishio discloses said one-package switch 26 being surface mounted on said second face of said circuit board, at a location apart from said electrodes 61.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to rearrange the location of one-package switch of Toshiyuki as taught by Nishio, doing so would limit the influence of the heat generated by the electrodes exerting on the electric components (col. 9, lines 64-67 and col. 10, lines 1-2)

Regarding claim 3, as applied to claim 1, Figure 1 of Nishio discloses said one-package switch being surface mounted on said second face of said circuit board; and no components are mounted on the area of said first face that corresponds to the area of said second face where said one-package switch is mounted.

Regarding claim 4, as applied to claim 1, Figures 1, 8 and col.11, lines 54-67 and col. 12, lines 1-5 of Nishio disclose said one-package switch being surface mounted on said second face of said circuit board; and no components that emit heat being mounted on the area of said first face that corresponds to the area of said second face where said one-package switch being mounted.

Regarding claim 5, as applied to claim 1, Figure 1 of Nishio discloses said one-package switch being surface mounted in such an orientation that the field effect transistor that has a higher on-resistance faces the peripheral edge of said circuit board.

Regarding claim 6, as applied to claim 1, Figure 1 of Nishio discloses said self-ballasted fluorescent lamp comprises includes a base 12 disposed at said second-face side of said circuit board 24; a through hole formed through said circuit board so as to extend from said first face to said second face; a long-tip type capillary tube 140a extending from said fluorescent lamp so that the tip of said capillary tube pass through said through hole towards said base, and a main amalgam 142a enclosed in said capillary tube; wherein said one-package switch is mounted near said through hole.

Regarding claim 12, as applied to claim 1, Nishio (col. 30, lines 28-31) discloses a main body; and said self-ballasted fluorescent lamp attached to said main body.

Claim 13 is rejected for similar subject matter to claim 12.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dieu Hien T. Duong whose telephone number is 571-272-8980. The examiner can normally be reached on Monday - Friday, from 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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DD



DAVID VU
PRIMARY EXAMINER